Amendments to the Claims

Kindly amend claims 1, 7, 19, 21 & 22, and cancel claims 4-6, 11-18 & 25-27 (without prejudice), as set forth below. All pending claims are reproduced below, with changes in the amended claims shown by underlining (for added matter) and strikethrough/double brackets (for deleted matter).

1. (Currently Amended) An optical switch comprising:

at least one first set of ports for receiving in parallel an optical byte of data;

multiple second sets of ports, each second set of ports being capable of outputting in parallel the optical byte of data; [[and]]

an array of optical switching elements disposed between the at least one first set of ports and the multiple second sets of ports, wherein the array of optical switching elements direct the optical byte of data in parallel from the at least one first set of ports to at least one second set of ports of the multiple second sets of ports; and

wherein the array of optical switching elements direct the optical byte of data from the at least one first set of ports to the at least one second set of ports using at least one wavelength of the optical byte of data, at least some optical switching elements of the array of optical switching elements comprising optical filters, each optical filter transferring optical data of a selected wavelength, and wherein the optical byte of data comprises a plurality of bits of optical data, and the plurality of bits of optical data have a common wavelength, and wherein the optical filters assist in selecting the at least one second set of ports based on the common wavelength of the bits of optical data.

2. (Original) The optical switch of claim 1, wherein the array of optical switching elements comprises an array of micro-electro mechanical system (MEMS) devices, each MEMS device having a position controllable reflective surface.

3. (Original) The optical switch of claim 2, wherein MEMS devices of the array of MEMS devices are grouped in subsets, each subset of MEMS devices being controllable to facilitate transfer of the optical byte of data in parallel from the at least one first set of ports to the at least one second set of ports of the multiple second sets of ports.

4-6. (Canceled).

7. (Currently Amended) The optical switch of claim [[5]] 1, wherein the optical byte of data comprises a plurality of bits of optical data and at least some bits of optical data of the optical byte of data comprise different wavelengths, and ~~wherein~~ the array of optical switching elements directs the optical byte of data from the at least one first set of ports in parallel to the at least one second set of ports ~~notwithstanding that~~ , and wherein the at least some bits of optical data may have different wavelengths.

8. (Original) The optical switch of claim 1, further comprising control logic for controlling switching of the array of optical switching elements to direct the optical byte of data in parallel from the at least one first set of ports to the at least one second set of ports.

9. (Original) The optical switch of claim 1, wherein the at least one first set of ports, the multiple second sets of ports, and the array of optical switching elements are bidirectional, allowing optical bytes of data to be transferred in parallel from any one of the at least one first set of ports and the multiple second set of ports to another of the at least one first set of ports and the multiple second sets of ports.

10. (Original) The optical switch of claim 1, wherein the array of optical switching elements directs in parallel the optical byte of data received at the at least one first set of ports to at least two second sets of ports of the multiple second sets of ports.

11-18. (Canceled).

19. (Currently Amended) A device comprising:

a substrate having multiple layers disposed thereon, said multiple layers comprising:

a first optical waveguide layer having at least one first set of ports for receiving in parallel an optical byte of data;

a second optical waveguide layer having multiple second sets of ports capable of outputting in parallel the optical byte of data; [[and]]

an optical switching element layer for facilitating directing of the optical byte of data in parallel from the at least one first set of ports of the first optical waveguide layer to at least one second set of ports of the multiple second sets of ports of the second optical waveguide layer; and

wherein the optical switching element layer comprises an array of optical switching elements disposed between the at least one first set of ports and the multiple second sets of ports, and wherein the array of optical switching elements direct the optical byte of data from the at least one first set of ports to the at least one second set of ports using at least one wavelength of the optical byte of data, at least some optical switching elements of the array of optical switching elements comprising optical filters, each optical filter transferring optical data of a selected wavelength, and wherein the optical byte of data comprises a plurality of bits of optical data, and the plurality of bits of optical data have a common wavelength, and wherein the optical filters assist in selecting the at least one second set of ports based on the common wavelength of the bits of optical data.

20. (Original) The device of claim 19, further comprising optical vias disposed within at least some layers of the multiple layers for facilitating passing of the optical byte of data between the first optical waveguide layer, the optical switching element layer, and the second optical waveguide layer.

21. (Currently Amended) The device of claim 19, wherein ~~the optical switching element layer comprises an array of optical switching elements,~~ said array of optical switching elements ~~comprising~~ comprises an array of micro-electro mechanical system (MEMS) devices, each MEMS device having a position controllable reflective surface.

22. (Currently Amended) The device of claim 21, wherein at least some optical switching elements of the array of optical switching elements comprise optical filters, each optical filter transferring optical data of a selected wavelength~~, and wherein the array of optical switching elements direct the optical byte of data in parallel from the at least one first set of ports to the at least one second set of ports using at least one wavelength of the optical byte of data~~.

23. (Original) The device of claim 19, wherein the device is integrated within a multichip module containing at least one processing unit.

24. (Original) The device of claim 19, wherein the first optical layer comprises multiple first sets of ports, and wherein the first optical waveguide layer, the second optical waveguide layer, and the optical switching element layer are each bidirectional.

25-27. (Canceled).

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